

ABSTRACT OF THE DISCLOSURE

A circuit controls the period of a self-refresh in a semiconductor memory device. The circuit includes pulse generating means for outputting a predetermined periodic pulse train responding to an external control signal; frequency-dividing means for outputting a number of pulse trains which have different periods from each other by frequency-dividing said pulse train output from said pulse generating means; at least one temperature detecting means for outputting a temperature detection signal by detecting that the ambient temperature of said memory device reaches at a predetermined level; at least one voltage detecting means for outputting a voltage detection signal by detecting that the power supply voltage applied to said memory device reaches at a predetermined level; combination pulse train generating means for outputting a number of combination pulse trains by combining the said pulse trains output from said frequency-dividing means; and pulse selecting means for outputting a self-refresh master clock by selecting one of said combination pulse trains responding to said voltage detection signal and said temperature detection signal.